

RARITAN ARSENAL
2890 Woodbridge Avenue
Bonhamton Vicinity
Middlesex County
New Jersey

HABS No. NJ-1061

HABS
NJ
12-BONTO, V,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
National Park Service
Philadelphia Support Office
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

HISTORIC AMERICAN BUILDINGS SURVEY

RARITAN ARSENAL

HABS
NJ
12-BDNTD-V,
1-
HABS No. NJ-1061

Location: 2890 Woodbridge Avenue, Bonhamton vicinity,
Middlesex County, New Jersey

USGS Perth Amboy and South Amboy, New Jersey Quadrangles
Universal Transverse Mercator Coordinates:

A	18.557040.4486000	C	18.554680.4481600
B	18.553260.4484100	D	18.557440.4483275

Present Owner: United States Environmental Protection Agency Region II
26 Federal Plaza, New York, New York 10278

Present Occupant: United States Environmental Protection Agency, Raritan Center Complex,
Middlesex County College, Middlesex County.

Present Use: Offices, manufacturing, education, recreation.

Significance: The Raritan Arsenal, originally known as the Raritan River Ordnance Base, was established in 1917 in preparation for the United States' entry into World War I. The Arsenal, initially a 2,150 acre complex with 275 buildings, fifty-two miles of railroad, six miles of concrete roads, and water access to the Raritan River, played a key role in the transport of war materials to both Allied and American armed forces in Europe during World War I. The installation served as a major East Coast storage and transshipment center for munitions, an assembly/repair facility for motorized ordnance equipment, and an ordnance training camp for 20,000 American soldiers. During the 1920s and 1930s, the primary purpose of the Raritan Arsenal was the storage, salvage, and renovation of munitions. The facility also supplied assembly and repair services for the more advanced military technology that was developed during these two decades. As the United States entered World War II, the Arsenal retained and expanded these vital functions and reactivated the ordnance training unit. In 1956, the Raritan Arsenal began a gradual phase-out, and in 1964 the installation was turned over to the General Services Administration. The complex was then subdivided into separate parcels and sold or transferred to several business and government organizations. The property is now occupied primarily by Raritan Center, Middlesex County College, Thomas A. Edison County Park, and the United States Environmental Protection Agency.

PART I: HISTORICAL INFORMATION

A. LOWER RARITAN VALLEY HISTORY PRIOR TO THE ARSENAL PERIOD

1. **17th century:** The site of the former Raritan Arsenal occupies the lower Raritan Valley, an area that was initially settled in the 1680s when Puritans arrived there from New England (U.S.E.P.A. 1990:5). Although pioneer farms were scattered throughout the valley, their precise locations are unknown. One economic pursuit carried out by these settlers was salt hay farming, which may have occurred in the marshes along the north side of the Raritan River in the vicinity of the site. The early settlers also engaged in clay mining and brickmaking in the 1690s, although these industries did not become significant until the 19th century (U.S.E.P.A. 1990:I-17).

18th century: With the Raritan River providing an important means of transportation throughout the region, settlements grew and population increased during the 18th century. Agriculture, especially the production of wheat, was the predominant economic activity in the area, and wheat and other farm products were shipped to market via the Raritan River. Grist mills, which ground locally-grown wheat, were established along small waterways, although none were apparently located within the site of the former Arsenal. A map dated 1755-1783 shows the settlement of Bonhamtown Landing, which was situated at the head of Red Root Creek adjacent to the site (Brush 1976). The nearby community of Bonhamtown was the site of several skirmishes between British and Continental troops during the Revolutionary War (Munn 1976:16). During that time the Old Post Road was a primary east-west land route through the area, but no other major roadway existed near the site. During the 18th century the Arsenal site remained mostly unoccupied and included a large area of salt meadows. Two maps, one from 1745 and another from 1766, depict a farmstead near the head of Red Root Creek with a trail leading from Bonhamtown to the farmstead (Dalley 1745; Dunham 1766). Also present on the 1766 map are two other farms situated southwest of Great Pond.

19th century: In general, the economic focus of the lower Raritan Valley shifted from agriculture to manufacturing during the 19th century. Away from the industrial centers, however, agriculture was still a mainstay of the local economy (Schmid & Co. 1987:I-5; U.S.E.P.A. 1990:17). In 1850 three structures were present in the area of the Arsenal site, and by 1876, more farms had been established. It is likely that these residents not only farmed the uplands, but also harvested salt hay from the marshland closer to the river (Marshall 1930:241; Schmid & Co. 1987:I-6). In order to accomplish this, farmers “constructed ditches to drain their marshes, fenced them, and built bridges over the ditches...” (Wacker and Clemens 1995:120). By 1875 clay and sand pits were being excavated both north and south of the Raritan River, some of which appear east of Bonhamtown on a map dated 1876 (Everts & Stewart 1876). Clay was used for the

manufacture of bricks, drain pipes, and pottery. Railroad lines were built to service these industries, and an 1876 map shows a railroad labeled "CLAY COS R.R." (Everts & Stewart 1876). Although clay mining was a profitable industry, it involved similar extraction methods as strip mining and altered the area's topography, leaving extensive scars across the landscape (Dames & Moore 1993:3-19).

Early 20th century: The lower Raritan Valley experienced intense population growth during the early 20th century, due to the improvements in railroad transportation, the invention of the automobile, and the construction of a major trolley line (Schmid & Co. 1987). During this time many area residents commuted to New York and other areas to work (U.S.E.P.A. 1990:17). Due to increased suburbanization and industrialization, the agricultural economy waned, and large farms were subdivided to create more housing. However, the clay industry grew and there was an increase in the number of clay and fire sand mines in the area, which led to the establishment of additional brick works. In 1905 a branch line of the Lehigh Valley Railroad extended west to link the local clay company and communities along the Raritan River with the national rail system (Dames & Moore 1993:3-22). Descriptions of the area during the early 20th century indicate that the upper terrace of the Arsenal site was mostly farmed land (U.S.E.P.A. 1990:12).

B. SITE HISTORY OF THE ARSENAL PERIOD

- Creation of the Arsenal/World War I (1917-1919):** The Raritan River Ordnance Base (formally renamed Raritan Arsenal in 1937) was established in 1917. The base was unofficially referred to as Raritan Arsenal as early as 1919 (Conard 1919). The Arsenal was initially intended as a temporary depot for the storage and shipment of munitions to Europe during World War I. The site of the Arsenal was selected because it met four key criteria. First, the extant railroad line that serviced the clay industry during the late 19th and early 20th centuries offered access to the national rail network, allowing the transport of munitions to the Arsenal. Second, the substantial size of vacant land, initially 2,150 acres, provided the space for the construction of numerous and separate storage bunkers for munitions and other war-related materials. Third, the relative isolation of the site and the sparse population of the surrounding area made it a relatively safe choice for the storage of tons of explosives (Raritan Arsenal Vol. I, Part 2, History 1919 to 1942:1). The area by the river was situated a significant distance to the south of Bonhamton, the nearest community, and the expanse of the Raritan River could dissipate the blast of an accidental explosion. The isolated nature of the site proved to be critical in 1918 when the Gillespie Shell Loading Facility, across the river from the Raritan Arsenal, caught fire. The force of the explosion was so great that it shattered arsenal windows, ripped off doors, and hurled men and equipment to the floor (The Exhaust, 1918, October 8:1-2). The fourth criterion, the site's position on the Raritan River, provided water access for large

vessels. Munitions transported by rail to the Arsenal could be forwarded to ships for transport to Europe (Raritan Arsenal Vol. I, Part 2, History 1919 to 1942:1)

Authorization to proceed with the construction of the Arsenal was issued on October 5, 1917, six months after British and French delegations visited Washington, D.C. seeking money, manpower and war materials (Kennedy 1980:93). Many obstacles had to be surmounted before construction could be completed. Construction of the arsenal began before formal real estate acquisitions or a boundary survey had been undertaken. Properties were transferred by fee simple acquisition, while others were condemned. Payment for acquired properties was initiated in 1919, two years after construction began, and continued at least into 1921 (Carman 1924:4). In addition to problems concerning real estate acquisition, the project faced a number of interruptions in construction due to cold weather, marshy soil, insects, lack of space to house the contract laborers, and difficulty in managing the all-Italian labor force. The turnover rate for laborers in 1918 reached 600 percent (Conard 1919:29).

Construction began with the erection of six barracks and by January 1918, the initial assignment of 1,250 soldiers arrived at the facility (The Raritan Arsenal Detonator, May, 1922:3). Because of the immediate demand for housing, a temporary construction camp had to be built to house laborers. This camp, which consisted of forty-five frame buildings located southeast of the large assembly plant and shop structures, eventually housed 1,570 men. The gable-roof buildings were primarily long, rectangular two-story clapboard-sided barracks and single-story board and batten service buildings (Conard:21). By 1939 these camp structures were no longer present; seventy-one were demolished as early as 1922 (U.S.E.P.A. 1990:23-4, 1992:12,21).

World War I was the first major military venture Americans faced since entering the industrial era. Although the War Department planned to send one million American soldiers to France by the spring of 1918, Americans had no prior experience with training and transporting a large army overseas (Kennedy 1980:94). The commander of the American Expeditionary Forces stated that “when the General Staff went to look in the files for the plans for a large-scale European military operation, ‘the pigeon-hole was empty’ ” (Kennedy 1980:94). Hence, World War I “forced both government and business to think and act on an unprecedentedly large and integrated scale” (Kennedy 1980:94). Raritan Arsenal was part of this integrated effort. In addition to serving as a storage and transshipment center for munitions, the Arsenal had two other purposes during World War I. One purpose was the establishment of a facility for the assembly, repair, and shipment of artillery, tanks and automobiles, (Raritan Arsenal History, Vol. 1, Part 2); the other purpose was to train troops at the Arsenal and at other Mid-Atlantic region installments (Dames & Moore 1993:4-12, 4-14).

Four administrative divisions were developed. The Supply Division managed all storage functions. The Personnel Division was in charge of the supervision of troops. Vehicle assembly was administered by the Production Division, while the Ordnance Maintenance and Repair Schools supervised all repair activities. The Assembly Plant received up to 265 vehicles a day for inspection, assembly, repairs, painting, and delivery overseas (HABS No. NJ-1061-D and HABS No. NJ-1061-J).

Initially, the Assembly Plant's function (HABS No. NJ-1061-D and HABS No. NJ-1061-J) was limited to tank and chain assembly. With the tremendous growth experienced in 1918, the plant's mission was expanded to include, among other tasks, the assembly of 75mm field artillery, the inspection and repair of trucks, vehicle and motorized weapon camouflage, local transportation, electrical installation and vehicle painting. Plant operations were divided into two areas of activity: Plant Engineering, which was responsible for all aspects of vehicle, tank, and motorized artillery production and operated the plant's newly constructed and equipped machine shops and Plant Administration. Operations at the Assembly Plant were divided into 13 areas of activity, each performed by a specifically assigned section. These sections were tank assembly, chain assembly, transportation, repair, camouflage, truck repair, carpentry, plant machine shop, electrical, pump and hose, car painting, and motor vehicle tool box production. (Dames & Moore 1993:4-5, 4-6)

Construction during World War I culminated in the construction of fifty-two miles of railroad, six miles of concrete road, many miles of gravel road, dykes in the salt meadows, dock sheds along the Raritan River, (Raritan Arsenal History, Vol. I, Part 2:Ch.8, p. 1) thirteen large one-story buildings that constituted the manufacturing area, a hospital group of thirteen buildings, 170 barracks buildings, including twenty-nine mess halls and twenty-nine latrines, two administration buildings, a post exchange, garages, stables, offices and 192 magazines. In addition, YWCA Hostess House, YMCA, Knights of Columbus, Red Cross, and Jewish Welfare League buildings were constructed with non-government funds (Carman 1924:4). By January 1919, numerous warehouses, 200 ammunition magazines, and a vehicle assembly plant had been built (U.S.E.P.A. 1990:19). Among these warehouses were Warehouse N-5 (HABS No. NJ-1061-A) and Warehouse M-4 (HABS No. NJ-1061-B) that were demolished in 1993. The early buildings were primarily frame construction; the remaining buildings were constructed of brick. The total cost of construction was \$13,500,000 and included 275 buildings (U.S.E.P.A. 1990:19). Of the 2,151 acres of land encompassing the Arsenal area during this period, 1,137 of these were salt meadow, including a 51 acre pond, and 39 acres were streams (Carman 1924:4).

2. **The Arsenal Between the Wars (1919-1939):** Significant advances in military technology occurred between 1919 and 1939, including improvements in tanks, aircraft,

anti-aircraft gunnery, radar, and artillery (Encyclopedia of Land Warfare:1976:77-79). The types of war materials stored at Raritan Arsenal included motorized artillery, tanks and tank components, various types of trucks and other vehicles, and small arms, including rifles, machine guns, gatling guns, and carriage guns. For the first six months of 1919, a total of 11,397.51 tons of motorized ordnance equipment was received and stored at the Arsenal (A History of the Activities at the Raritan Arsenal during the World War, Prior to World War II).

During this period there was a significant expansion of materials and activities at the Raritan Arsenal. The effect was an increase of inventory from wartime levels. The Arsenal, which was officially renamed the Raritan Arsenal in 1937, became a permanent Army installation after the war (Raritan Arsenal Vol. I, Part 2:3; U.S.E.P.A. 1990:26). During World War I, 10,000 to 20,000 troops had been stationed at the Arsenal and many of the Arsenal's duties were performed by soldiers. By 1919, most soldiers had been discharged and just two military units remained at the Arsenal (Raritan Arsenal History, Vol. 1, Part 2: Ch.5, p. 1). Civilians took over soldiers' positions at the expanding installation. Prior to World War I, inventory was taken daily by a process known as the Ordnance Provision System (Raritan Arsenal History, Vol. 1, Part 2: Ch.9, p. 1). After 1921, the Army's Ordnance Department office was moved to Raritan Township (now Edison Township) and was enlarged to act as a clearinghouse for the Ordnance Provision System for all branches of the Army (Raritan Arsenal History, Vol. 1, Part 2: Ch.9, p.2.).

During this period, the Arsenal functioned primarily as a storage facility for stockpiles of ammunition and materials leftover from World War I, as well as a receiving and distribution center for war trophies. The Arsenal expanded its ammunition magazine storage area to 1,176,000 feet and its warehouse capacity to 1,000,000 square feet. The Lehigh Valley and Pennsylvania Railroads served the Arsenal with sixty miles of railroads on site. Docking facilities were also expanded for the transfer of materials to freighters in the lower New York Bay area (The Raritan Arsenal Detonator May 12, 1922:3).

Military personnel were replaced with civilians and "the arsenal served as the main ordnance supply for the First, Second, and Third Corps Areas" (U.S.E.P.A. 1990:26). Approximately 300 troops were assigned to the arsenal during this period (Dames & Moore 1993:5-5, 6-6). The number of civilian workers decreased steadily from 10,000 in 1919 to 250 between 1923 to 1939 (U.S.E.P.A. 1990:26). A number of different ordnance companies occupied the arsenal during this period and performed various functions including: training, ammunition, equipment maintenance and repair, and cataloguing and publishing.

Many of the Arsenal buildings were originally intended to be temporary and were of frame construction, including enlisted men's barracks and the hospital (Dames & Moore

1993:5-5). Additionally they were hastily constructed. Plans were underway in 1922 to replace these temporary buildings with permanent construction ("A Brief Presentation..." 1922:3) although it appears that this did not occur immediately. The number of structures at the Arsenal was reported as approximately 275 in 1922 ("A Brief Presentation..." 1922:3) and approximately 260 in 1931 ("Correspondence" May 26, 1931). In 1934, some of these temporary buildings remained and were reported to be fire hazards ("Annual Inspection Report..." 1934:5). By 1939 many of these structures were demolished (U.S.E.P.A. 1992).

The principal operations performed in the Arsenal's manufacturing shops complex during this time period was the overhauling and reconditioning of Ordnance Stores and materiel, and the upkeep and maintenance of post utilities and installations, and the manufacture of target material for small arms and artillery. The shops included armament, motor, electrical, plumbing, sheet metal, carpenter, and machine shops (Buildings 14 and 19A, HABS No. NJ-1061-D and HABS No. NJ-1061-J) ("Annual Inspection Report..." 1926:5). In addition to storing and transferring ammunition, explosives and vehicles, the Arsenal also repaired small arms, automatic weapons, artillery, and tractors. This included the 40-truck First Ammunition Train, which transported munitions from the Picatinny Arsenal in Sussex County to the Raritan Arsenal (The Raritan Arsenal Detonator, May 12, 1922:3).

Despite the demolition of many temporary structures at the Arsenal during this period, improvements to the facility were made (U.S.E.P.A. 1990:28) to improve the quality of life at the Arsenal. Five sets of non-commissioned officers' quarters were constructed in 1931, and an additional ten sets in 1933 (Construction Completion Reports). These buildings remain in use by Middlesex County College. During this time, the Arsenal provided libraries, a swimming pool, a golf course, barbers and tailors, a new 240 bed brick hospital, and various clubs for both military and civilian personnel. The shop Office Building 17 (HABS No. NJ-1061-I), the shop Lunch Room (HABS No. NJ-1061-K), and numerous maintenance and warehouse structures were constructed during the interwar years. A heating plant was installed for buildings J1 and K2 in 1922 and a sewage plant was constructed in 1937 (U.S.E.P.A. 1990:27). Regrading of 300 acres in the upper area was also done that year by 782 WPA workers and included the filling of the 19th century clay pits (U.S.E.P.A. 1990:27).

Included among the buildings constructed between the wars was Building 16 (recently demolished), which was a latrine serving the shops complex. Building 16 was an approximately 30'x70' single-story stuccoed masonry building with a concrete slab foundation. It was constructed in 1938 (U.S.E.P.A. 1992:23) and was attached on the north to Building 15D (HABS No. NJ-1061-H) and on the south to Building 17 (HABS No. NJ-1061-I). The asphalt shingle gable roof had exposed rafter ends. There was an

entrance with a bracketed gable roof shelter on the east and west elevations. A shed-roof porch was located on the south elevation where the building met the west elevation of Building 17. The building had double-hung aluminum and vinyl windows, presumably replacements. Interior treatments are unknown.

- 3. World War II (1939-1945):** Anticipating its upcoming involvement in World War II, the United States expanded the Raritan Arsenal in 1939. This expansion included the modernization of the Arsenal's renovation activities. In addition to renovating one million rounds of 75mm ammunition, the plant also salvaged and processed Grade III small arms ammunition and components (History of the Raritan Arsenal 1919-1942, Chapter 6:3-4). By April and May of 1940, a variety of types of munitions and explosives arrived at the Arsenal for shipment to Hawaii, the west coast, the Panama Canal Zone, and the Philippines via United States Army transport ships, the *Liberty* and the *Ludington*. The ordnance materials shipped included high explosives, hand grenades, fuzes, explosive boosters, primers, black powder, fireworks, acid, poisonous chemicals and gases, tear gas grenades, smokeless powder, explosive projectiles, and smoke, tear gas, and gas shells (Chief Ordnance War Department Cargo List for USAT Ludington: March 13, 1940; Chief Ordnance War Department Cargo List for USAT Liberty: April 9, 1940).

After France surrendered to Germany on June 22, 1940, Congress approved a 37 billion dollar budget for guns, tanks, and aircraft necessary to equip an army, an airforce and a two-ocean navy. This was "more money than the entire American cost of World War I" (Stokesbury 1980:118). Three months later Congress passed the Selective Training and Service Act, the first peacetime draft, which called for one year of training for one year for 1,200,000 soldiers and 800,000 reserves (Stokesbury 1980:119).

By the time of Pearl Harbor in 1941 the United States had significantly increased production of war materials, equipping its own armed forces as well as those of the Allies (Stokesbury 1980:180). It was at this time that the Raritan Arsenal underwent further expansion. The number of civilian employees at the Arsenal increased from 2,800 in 1941 to 9,500 in 1942 (Elser 1945:1-2). In addition to performing its previous functions, the Arsenal also established an Ordnance Specialist School and an Optical Shop which tested and calibrated sighting and range finders (History of the Raritan Arsenal 1919-1942:Chapter 5,2-3). A Products Division, a Packaging Unit and a Publication Section were also organized. The latter used 70 tons of paper per week and printed military manuals both during and after the war.

During 1943 a company of 895 Italian prisoners of war were housed at Raritan Arsenal. They were put to work on the Arsenal doing carpentry work and digging drainage ditches. Many of these men remained after the war to form the Italian Service Unit (U.S.E.P.A.

1990:30-31). A unit of 443 Jamaican soldiers were also housed in the barracks and worked to defuse shells for brass retrieval (U.S.E.P.A. 1990:30-31).

The American economy reached full production during World War II, producing and equipping American, Allied, and Russian armed forces with 300,000 aircraft. In addition, the Western Allies, including the United States, contributed more than 385, 000 trucks to the war effort. In fact, "it was American trucks and half-trucks that really motorized the Red Army" (Stokesbury 1980: 234, 235). By 1943 the Raritan Arsenal was operating at full capacity. In March of that year the Arsenal shipped 11,816,888 pounds of munitions to Army units in the United States and overseas while receiving 23,467,415 pounds from ordnance depots and manufacturers for storage prior to shipment (Adamczyk, June, 1953:Chapter 8:13-17). The Arsenal purchased 1,063 acres of land east of the railroad line and south of Woodbridge Avenue, which became the site of 57 high explosive storage buildings called igloos. Each concrete igloo was 2,396 square feet in size and was covered in dirt, which would help contain an accidental explosion (Inventory of Military Real Property-Army Installations March 31, 1961:8).

Along with increased wartime activities came increased construction in all facets of Arsenal activity. With the need for increased wartime production, the industrial shops complex was expanded with the construction of Machine Shop S-3 (HABS No. NJ-1961-G) and Artillery Shop S-3-A (HABS No. NJ-1061-L). Arsenal equipment, including motor vehicles, tanks, and motorized artillery, was assembled, overhauled, repaired, modified, and otherwise maintained and improved, as were the several kinds of small arms stored at the Arsenal (History of Raritan Arsenal 1919-1942:Ch.7, pp 1-10).

A new Post Headquarters, Building No. 10, replaced the former Headquarters structure, and a Victory Mall was constructed on the eastern portion of the parade grounds. A Mechanical Equipment Building (No. 238), a filling station (No. 239), a weigh station (No. 240), and a fire station built at the western end of the warehouses ca. 1941, were constructed during this time period (U.S.E.P.A. 1992:25-26; "Oversize Map" 1943). These buildings are extant. Other additions were wooden troop barracks, (History of Raritan Arsenal 1919-1942:Ch 3,p. 4) officers' quarters, civilians' quarters, (Dames & Moore:8-9) and a laboratory. (Dames & Moore:7-4) The installation of a sewer and a water system was completed during this period, including the construction of a sewage disposal plant. (History of Raritan Arsenal 1919-1942, Ch.7:6) Additional maintenance, storage, and warehouse structures were built, including the Motor Repair Shop (Building 241) and a heating plant (Building 234) which were constructed in 1941 (History of Raritan Arsenal 1919-1942: Ch 7:6). The Motor Repair Shop handled the overhaul and modification of half trucks, trucks, scout cars, and tractors. The repair of small arms trucks, artillery repair trucks, and heavy shop trailers was also conducted at the Motor Repair Shop.

Two buildings that have been recently demolished at the Arsenal were constructed during this time period: Building 234, the Heating Plant, and Building 241, the Motor Repair Shop. The heating plant was a two-story brick "T"-plan building that rested on a concrete slab foundation. The flat roof was constructed of concrete panels and was encircled by a brick parapet. A brick chimney stack rose from the northeast corner of the "T." The structure was supported by brick-clad steel columns supporting a steel beam and purlin system. The west elevation was articulated with five bays of recessed panels. Banks of steel-frame windows were located in the north three bays of this elevation. The building also had metal doors and had four cleaver brooks and three Hodge oil fired boilers. The building was in poor condition in 1990. The stack was structurally unstable and the building was exhibiting cracks at several locations (Beatty et al. n.d.). The heating plant was constructed in 1941 as permanent construction at a cost of \$141,590.00 (Raritan Arsenal History Vol. 1, Part 2:Ch 3, p. 6). Construction may have begun as early as 1939, as the building appears in an aerial photograph taken that year (U.S.E.P.A. 1992: 26). In 1943 the building was listed as Heating Plant HP-1 ("Oversize map" 1943).

The motor repair shop was a single-story brick building approximately 70'x 170' and rested on a concrete slab foundation. Of particular interest was the heavy timber truss construction. Massive built-up timber construction was common during World War II due to the shortage of metal. Steel construction would have been a more contemporary choice prior to the war. The gable roof was either timber or metal and the gable peak was pierced with six metal ventilators. The building appears to have had a single metal rolling door at the north and south elevations and nine bays of metal-frame clerestory windows. A crane was located in this building, presumably for moving vehicles. The building appears to have been constructed between 1940 and 1943. It does not appear on a 1940 aerial map (U.S.E.P.A., 1990: Appendix I), but it appears on a 1943 map as Assembly Shop S-6 ("Oversize map" 1943.)

4. **Post World War II Period (1945-1964):** Plans for expansion during World War II were already in place at the time of the Japanese surrender on September 2, 1945 and some of the buildings intended to assist the war effort were completed during this period, including the Steam Cleaning Shop S-3-B (HABS No. NJ-1061-F) and Machine Shop S-3-C (HABS No. NJ-1061-H). In large part, however, the Arsenal began a decline in production activity after the end of World War II from which it would not recover.

During the Korean War the Provisional Unit Training Center was established at the Raritan Arsenal. The center trained Explosive Ordnance Disposal Squads and Explosive Ordnance Control Detachments from early 1951 to June 1952 (U.S.E.P.A. 1990). Limited expansion occurred during the 1950s, specifically the addition of more warehouses. Buildings 255 and 256, located at the eastern edge of the current

U.S.E.P.A. property, were constructed ca. 1953. These 200'x1200' buildings were used as covered storage for approximately 1,800 vehicles (Dames & Moore 1993:9-5).

General Storehouse Building 235, which was recently demolished, was reported by the General Services Administration in 1964 to have been constructed in 1941, although it does not appear in a 1943 map, or in aerial photographs of the time. It appears in a 1961 aerial photograph, so it is assumed that it was constructed after World War II. The building was used as storage or as a tool shed for the nearby heating plant (Building 234). The storehouse was a frame building sheathed in asbestos shingles or wood shakes and rested on a concrete block or concrete slab foundation. The composition shingle gable roof had exposed rafter ends. The building was four bays long and three bays wide, with a center entrance and multiple-light metal-frame windows. Three metal ventilator chimneys pierced the roof. In 1990, the building was in poor condition with missing windows and extensive rot (Beatty et al. n.d.).

By 1956, the Arsenal began to be phased out. In 1962 the final phase-out operation was begun by the Letterkenny Army Depot (LEAD), which conducted the decontamination process (Letterkenny Army Depot October 21, 1963:2-1). While decontamination of 17 contaminated areas was completed, some of these areas remained unfit for subsurface use.

By 1961 the Arsenal consisted of 3,233.99 acres (New Jersey Division of State and Regional Planning 1961:I-3). The Arsenal closed in 1964 and was turned over to the General Services Administration. The area east of the Parade Ground became part of the Department of Health, Education, and Welfare before it was transferred to the Department of Interior, Federal Water Pollution Control Administration in 1966 and used for water pollution control

- The Arsenal Property After 1964:** In 1964, the 3,188 acre Arsenal was decommissioned by the Army. In that same year, the property was turned over to the General Services Administration. Also in that year, 2,350 acres of the property were acquired by Vincent Visceglia and Frank Visceglia, Sr., who developed it into the Raritan Center, the largest office/industrial park east of the Mississippi River (U.S.E.P.A. 1990:32). The current property owners are Federal Business Centers and Summit Associates. This parcel primarily consists of the former magazine areas in the northeast and central portions of the site. Some of the existing structures were retained and converted into warehouse space.

In 1964, 200 acres of the Arsenal were conveyed to Middlesex County for the creation of Middlesex County College. The college, located in the northwest corner of the former Arsenal property, continues to use approximately twenty-five arsenal buildings, including Building Nos. 105-111, 115, 116, 118, 119, 125-128, 134, 140, 141, 214-217, 224, 229,

301, 307, and 308 (Dames & Moore 1993:10-5). An approximately 161 acre parcel in the southwest corner of the site became a county park in 1970 (U.S.E.P.A. 1990). Several magazines and other buildings were reported to remain on the site in 1993. On January 26, 1977, General Services Administration transferred the remaining 240 acres, upon which nearly all the extant buildings are located, to U.S.E.P.A. without reimbursement (U.S.E.P.A. 1990).

In 1964 The Middlesex Interfaith Partners with the Homeless acquired three acres of the property from General Services Administration on which they constructed a housing complex. while another twenty-three acre parcel was conveyed to TWC Realty. Two parcels of land are still owned by General Services Administration: an eleven acre plot adjacent to Middlesex County College and a nineteen acre plot in the southwest corner of the site (Dames & Moore 1993:11-3).

PART II. DESCRIPTIVE INFORMATION

A. PHYSICAL CHARACTER AND DESCRIPTION OF THE SITE

The Raritan Arsenal site consists of 3,188 acres (approximately five square miles) roughly in the shape of a quadrilateral approximately two and one-half miles on each side, located in Edison Township and Woodbridge Township, New Jersey. The site is located two miles west of the mouth of Raritan Bay and is bounded by Woodbridge Avenue and Route 287/440 on the north, Mill Road on the west, the Raritan River on the south, and Meadow Lane on the east. The areas north and west of the Arsenal along the four-lane Woodbridge Avenue and along Mill Road are primarily residential in character, and consist of single-family and multi-family housing units interspersed with small-scale commercial structures, churches, and schools. This type of development continues east along Woodbridge Avenue to Main Street, where the character changes to industrial structures along both sides of the road. The area east of the site is also industrial, and reaches to meet the industrial areas of nearby Perth Amboy.

The topography of the site ranges from flat to very gently sloping terrain. The northwest portion of the site -- the current location of Middlesex County College and the U.S.E.P.A. facility -- contains the highest point on the site and was used as agricultural land prior to the construction of the Arsenal. This area has been heavily developed and is largely paved and contains limited grass and trees. The land then gradually slopes downward to approximately the halfway-point between Woodbridge Avenue and the Raritan River. The soil in this section is clay and has been disturbed through Arsenal use, and in the commercial digging of clay pits prior to the construction of the Arsenal. The area between this halfway-point and the river is salt marsh, which has been subject to extensive cut and fill and dyking. Red Root Creek runs north to south through this area. The site is traversed throughout by multiple Conrail lines and spurs.

The Arsenal site has been divided into separate parcels as the property was deaccessioned. The portion of the Arsenal that currently remains under the control of the U.S. Government is the historical industrial and administrative core of the Arsenal. This parcel is located in the northwest-central area of the site. At present 30 buildings remain under U.S. Government ownership along Woodbridge Avenue. Entrance to the Arsenal property is through the Bonhamton gate on Woodbridge Avenue. An iron fence parallels Woodbridge Avenue. The area is flat, with scattered scrub vegetation and weed trees, and is dominated by the concrete foundation slabs and loading docks of the demolished warehouses and other buildings. Few of the frame buildings are extant, but several of the brick buildings remain, including the World War I Assembly Plant with its World War II-era shops complex, the Colonial Revival Post Headquarters and Telephone Exchange, a World War I switching station and office, a filling station and weigh station, and several warehouses and shop buildings. The majority of these structures are located between Woodbridge Avenue and Williams Avenue, which runs parallel to Woodbridge Avenue. The parade ground is located west of the Assembly Plant. The parade ground once contained the now demolished Commandant's residence and was the location of the main gate. This area contains the only ornamental vegetation at the Arsenal, with mature deciduous trees lining Williams Avenue, and flowering shrubs and trees on the Parade Ground.

Middlesex County College is located in the northwest corner of the site. This campus is characterized by brick Arsenal buildings including officers quarters, 1960s concrete modernist buildings, and a few recently constructed buildings among expanses of grass and trees traversed by paths. A portion of the former Arsenal golf course is located along Woodbridge Avenue and provides rolling terrain at the north edge of the campus. The parking lots along Mill Road are located on the site of the barracks area.

Thomas A. Edison County Park is located at the western portion of the site, adjacent to the College. The park primarily consists of playing fields, tennis courts, and parking lots. Three magazine buildings are used by the park as maintenance buildings; all magazines on Magazine Roads 1 to 5 were demolished.

The remainder of the park, approximately sixty percent of the Arsenal site, is occupied by the Raritan Center. This area contains high-rise offices and hotels, warehouses, and industrial buildings. The former upper magazine area and the igloo magazine area have seen numerous improvements, and only a handful of Arsenal buildings are visible among the recently constructed offices and hotels.

PART III: SOURCES OF INFORMATION

A. ORIGINAL ARCHITECTURAL DRAWINGS

No original architectural drawings have been located. 1936 plans and elevations of Assembly Plant J1 (HABS No. NJ-1061-D) and Assembly Plant K2 (HABS No. NJ-1061-J) are located at the National Archives, Washington, D.C., "Historical Record of Ordnance Buildings," Record Group 77, Entry 393, Box 205.

B. HISTORIC VIEWS

ca. 1918 -- Postcards entitled "Camp Raritan." Metuchen-Edison Historical Society.

1919 -- Report on the Construction of Raritan Arsenal Metuchen, New Jersey by C.K. Conard, Major, Ord. Dept., U.S.A. Constructing Quartermaster. October 15, 1919. National Archives, Washington, D.C. Record Group 77, Entry 391, Box 264 and at Metuchen-Edison Historical Society. Also reproduced in Dames & Moore and U.S.E.P.A. 1990 (see bibliography).

1943 -- Raritan Arsenal History, Vol. 106 Photographs, Illustrations to Vol. IV [i.e. July-September 1943 Quarterly Reports]. R.G. 156, Entry 646, Box A234, National Archives, College Park, Md.

undated (World War II period)-- Private Collection of Peter Giulias, former Operating Engineer at the Arsenal 1941-1963. Reproduced in Dames & Moore.

C. INTERVIEWS

Mr. Walter Stochel, Metuchen-Edison Historical Society, telephone interview, October 1, 1996.

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NOTE: Until the Spring of 1996, documentation for Raritan Arsenal was located at National Archives Reference Branch in Suitland, Maryland. This documentation has been divided into three locations by time period: pre-World War II at the National Archives,

Washington D.C.; World War II to 1955 at National Archives, College Park, Maryland; and post-1955 at Suitland, Maryland.

"Annual Inspection Report August 24, 1926." R.G. 92, Entry 1891, Box 1816, Folder 333.1, National Archives, Washington, D.C.

"Annual Inspection Report June 16, 1934." R.G. 92, Entry 1891, Box 1816, Folder 333.1, National Archives, Washington, D.C.

"A Brief Presentation of Raritan Arsenal, Its Location, Facilities and Activities, Prepared at Raritan Arsenal on the occasion of the visit of the New York Post, Army Ordnance Association, June 9, 1922." R.G. 156, Entry 646, Box 225, National Archives, College Park, Md.

Conard, C.K., Maj., Constructing Quartermaster. Report on the Construction of Raritan Arsenal Metuchen, New Jersey. Bound typescript, October 15, 1919. R.G. 77, Entry 391, Box 264, National Archives, Washington, D.C. *[N.B. References in prior documentation have incorrectly cited Maj. Conard's name as "Conrad." Copies have been made from the original report and the name misspelled in the reproduction process. The name "Conard" is corroborated by its appearance on maps from the period.]*

Construction Completion Reports 1917-1943 Rapid City Air Base to Raritan Arsenal. Bound volume. R.G. 77, Entry 391, Box 264, Book No. 1, National Archives, Washington, D.C.

Correspondence dated May 26, 1931 regarding inspection report of March 22-28, 1931. R.G. 92, Entry 1891, Box 1816, Folder 333.1, National Archives, Washington, D.C.

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"Historical Record of Buildings." R.G. 77, Entry 393, Box 205, National Archives, Washington, D.C.

Oversize manuscript map "Raritan Arsenal Ammunition Back-up Storage Electrical Line Location Plan, March 21, 1942." R.G. 77, File No. 6190, National Archives Cartographic Department, College Park, Md.

Oversize manuscript map "Raritan Arsenal Building Numbers, January 2, 1943." R.G. 156, Entry 646, Box 225, National Archives, College Park, Md.

Quarterly Historical Report of the Various Departments of Raritan Arsenal April, May, June 1945. Bound volume. R.G.156, Entry 646, Box 231, National Archives, College Park, Md.

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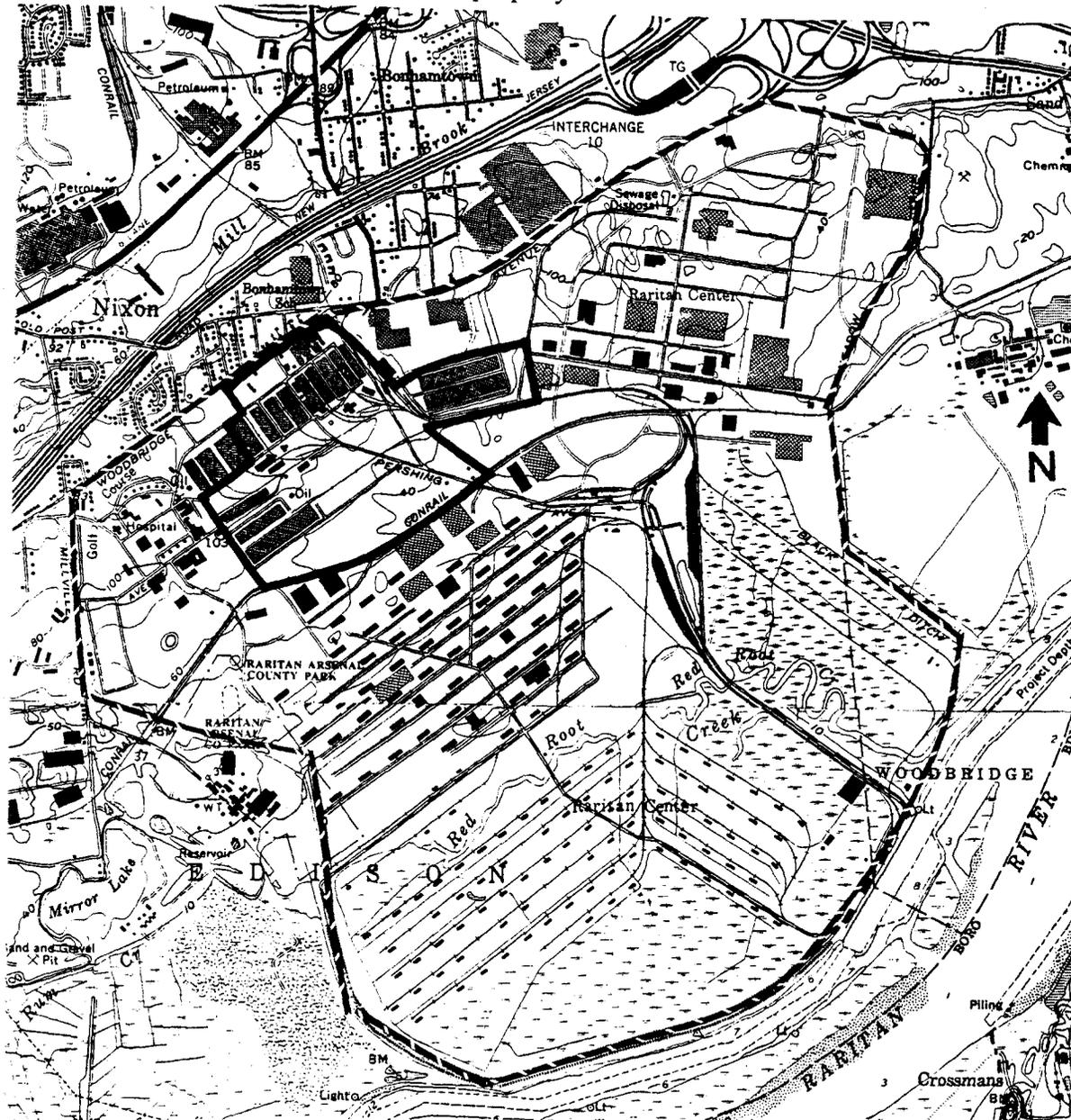
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PART IV: PROJECT INFORMATION

This documentation was undertaken to fulfill a 1992 Memorandum of Agreement among the Advisory Council on Historic Preservation, the Environmental Protection Agency, and the New Jersey State Historic Preservation Office, in accordance with the Raritan Arsenal Management Plan prior to demolition of the structures.

Prepared by : Stacy E. Spies, Architectural Historian
Marilyn Frasier, Historian
Affiliation: Richard Grubb & Associates
Date: October 1996

U.S.G.S. Perth Amboy, N.J. and South Amboy, N.J. Quadrangle (1956, photorevised 1981), 7.5 minute series. Dashed line indicates boundary of former Raritan Arsenal property. Solid line indicates boundary of U.S.E.P.A.-owned property.

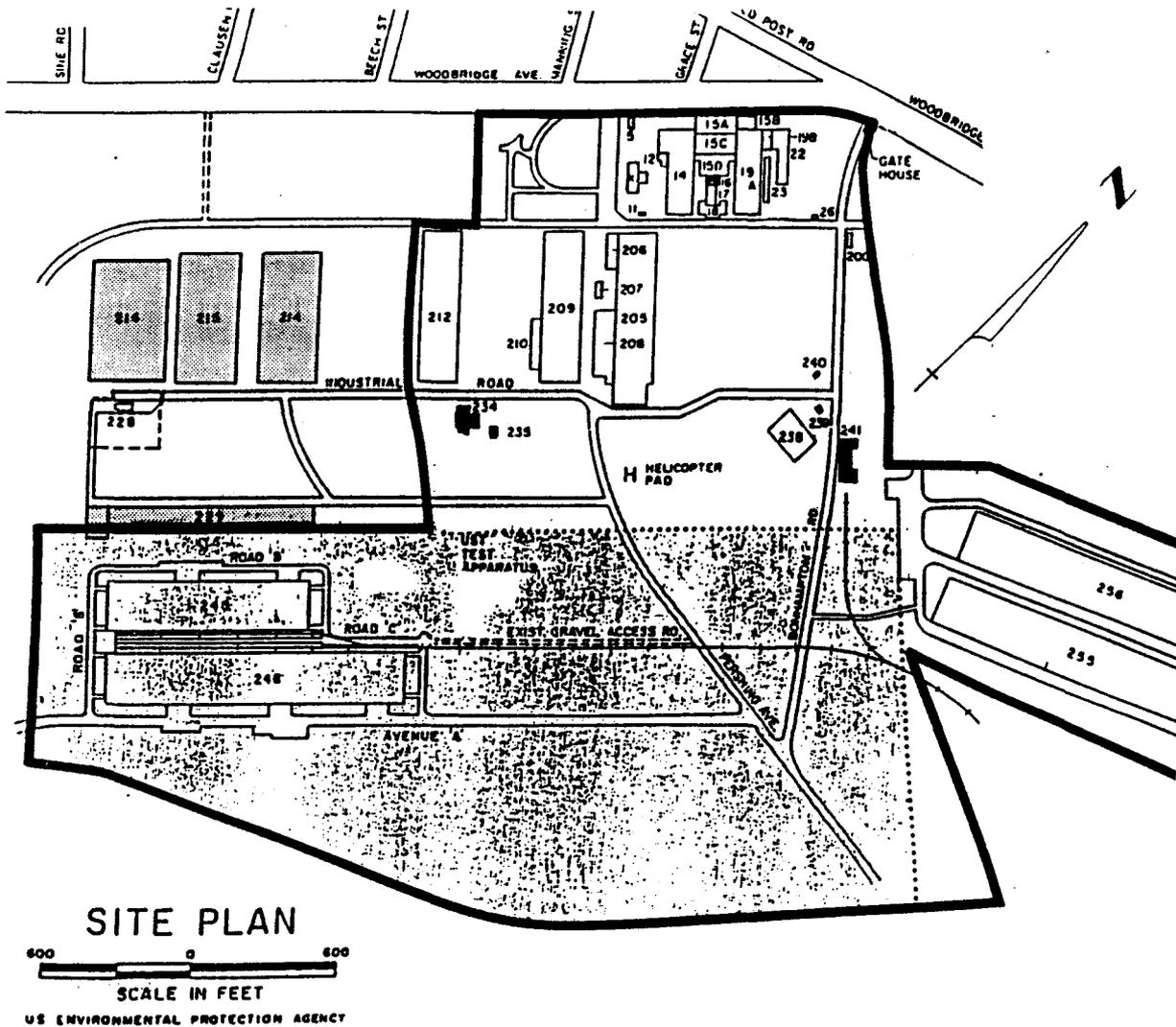


KEY: 1" = 2500'

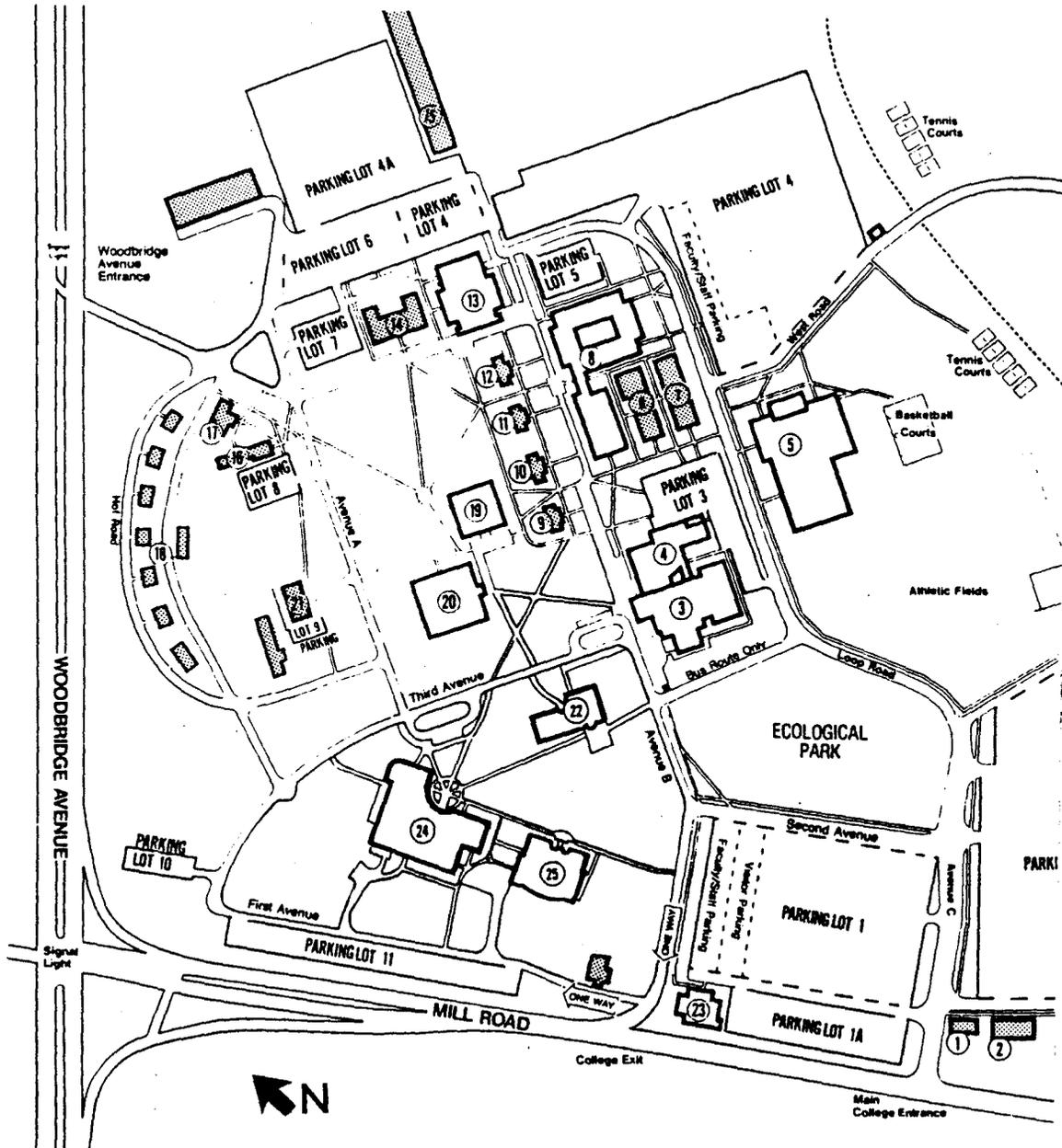
— - CURRENT BOUNDARY OF RARITAN ARSENAL

- - - HISTORIC BOUNDARY OF RARITAN ARSENAL

Map of the U.S.E.P.A.-owned property which includes part of the former Raritan Arsenal. Map altered from Figure 2 of the Stage 1 Cultural Resources Survey, U.S. Environmental Protection Agency Edison Facility, Edison Township, Middlesex County, 1990.



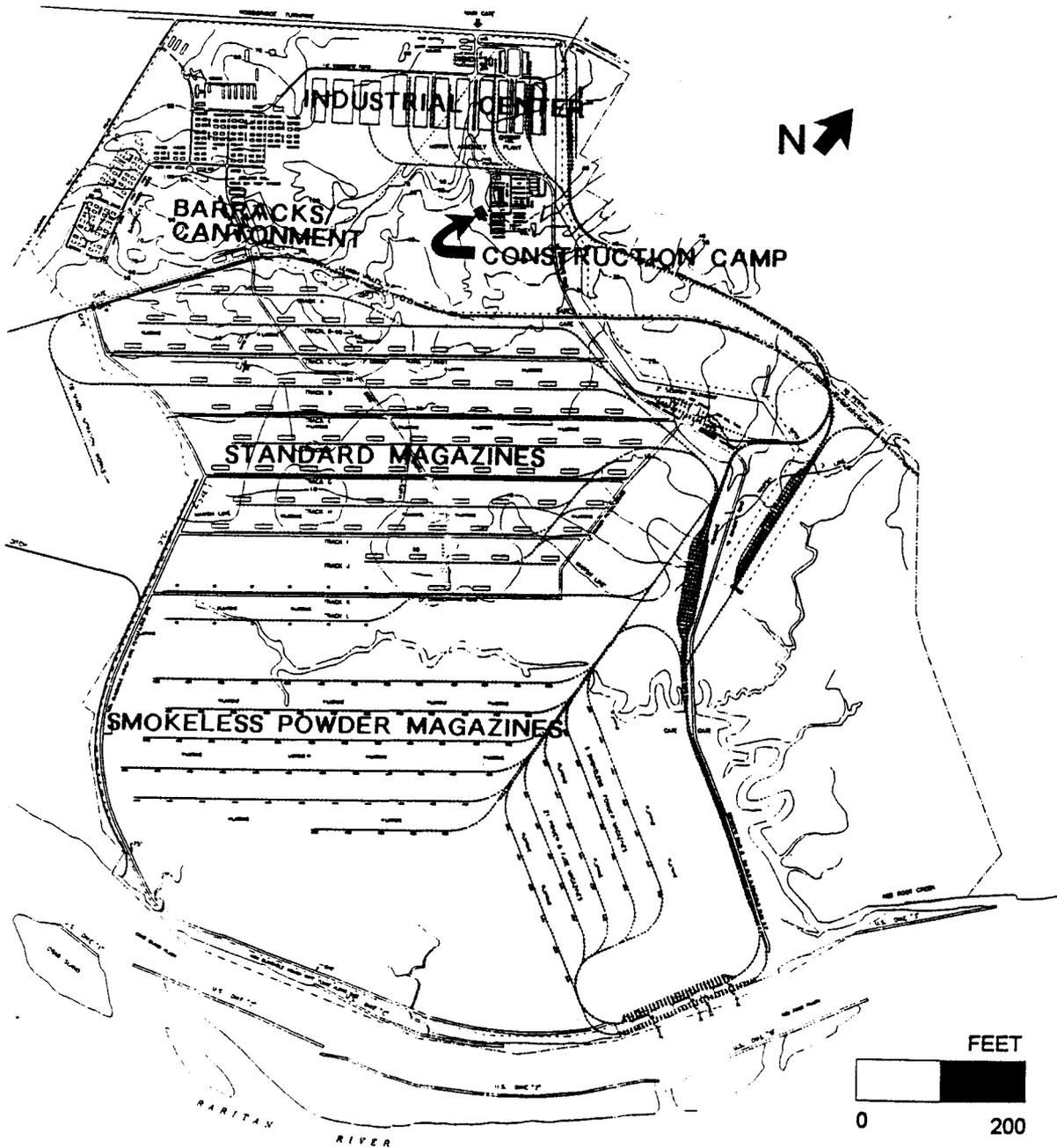
Map of Middlesex County College, located on portion of former Raritan Arsenal. Shading indicates Raritan Arsenal buildings in use by College.



KEY:	1" = 450'
 - BUILDINGS FORMERLY BELONGING TO RARITAN ARSENAL	

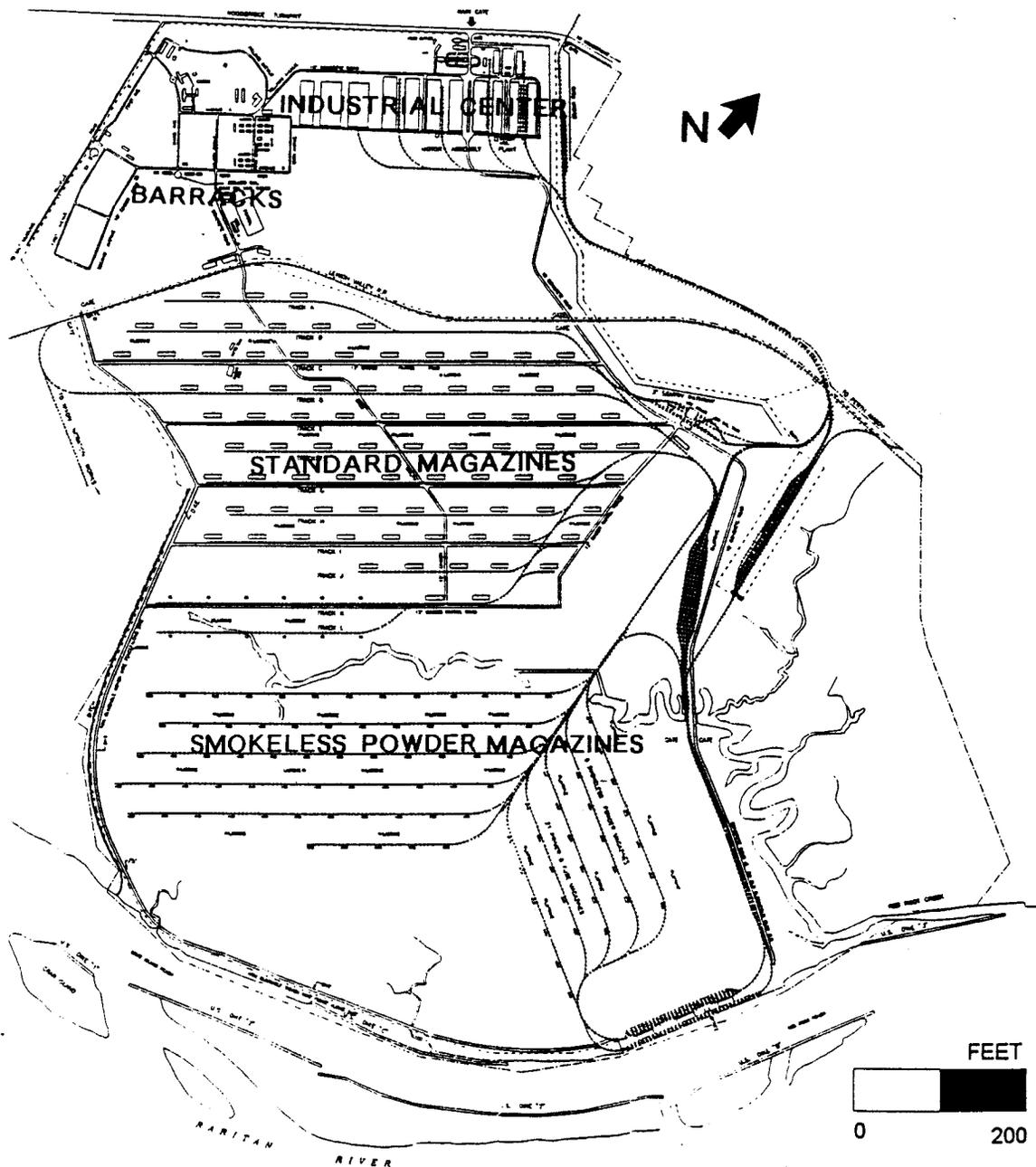
Map of Raritan Arsenal, 1918. Reproduced from Dames & Moore, Archival Search Report Former Raritan Arsenal, Edison, New Jersey, Volumes 1 and 2, Prepared for Army Corps of Engineers, Kansas City District, Kansas City, Missouri, July 1993.

Scale is approximate.



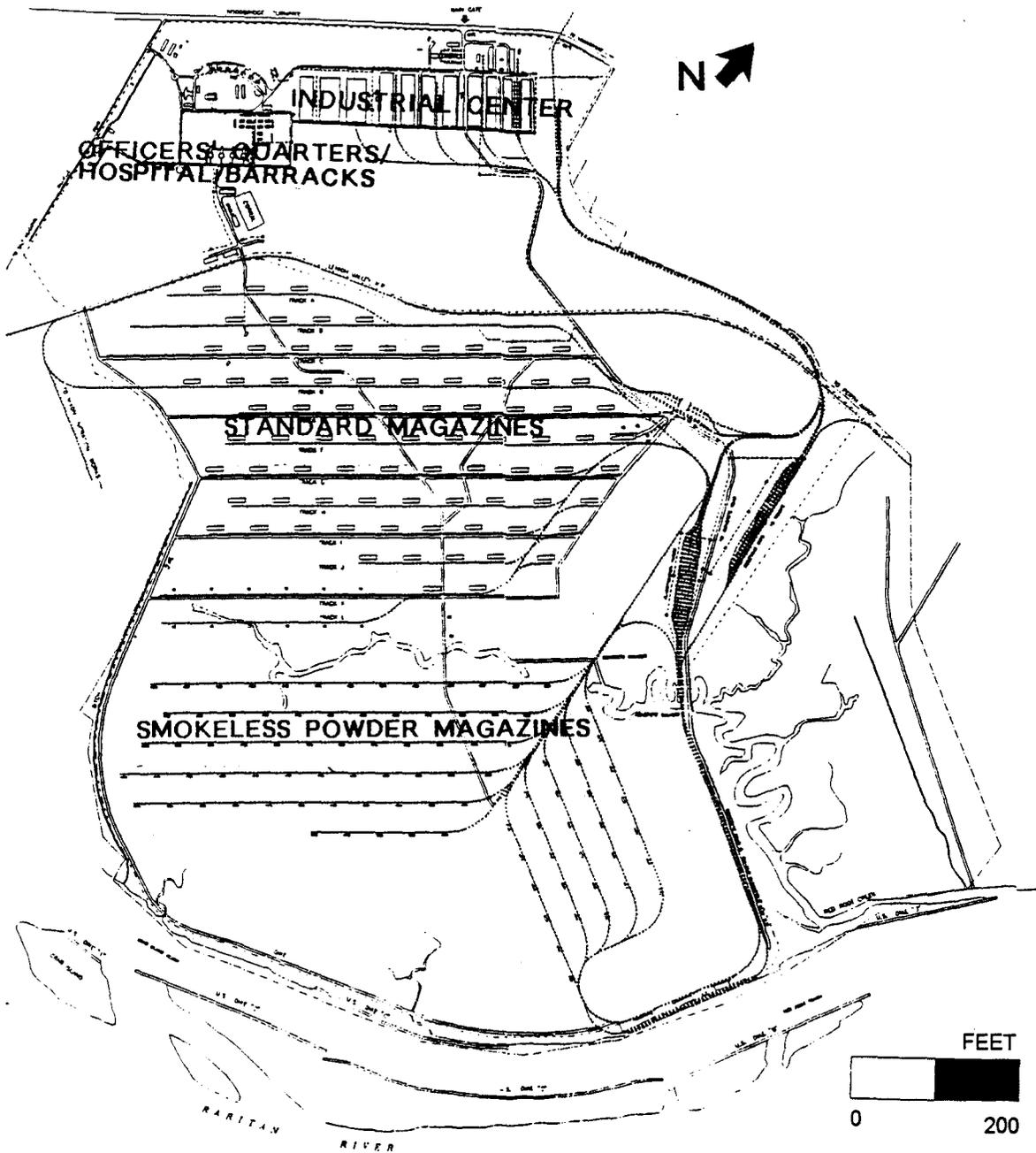
Map of Raritan Arsenal, 1925. Reproduced from Dames & Moore, Archival Search Report Former Raritan Arsenal, Edison, New Jersey, Volumes 1 and 2, Prepared for Army Corps of Engineers, Kansas City District, Kansas City, Missouri, July 1993.

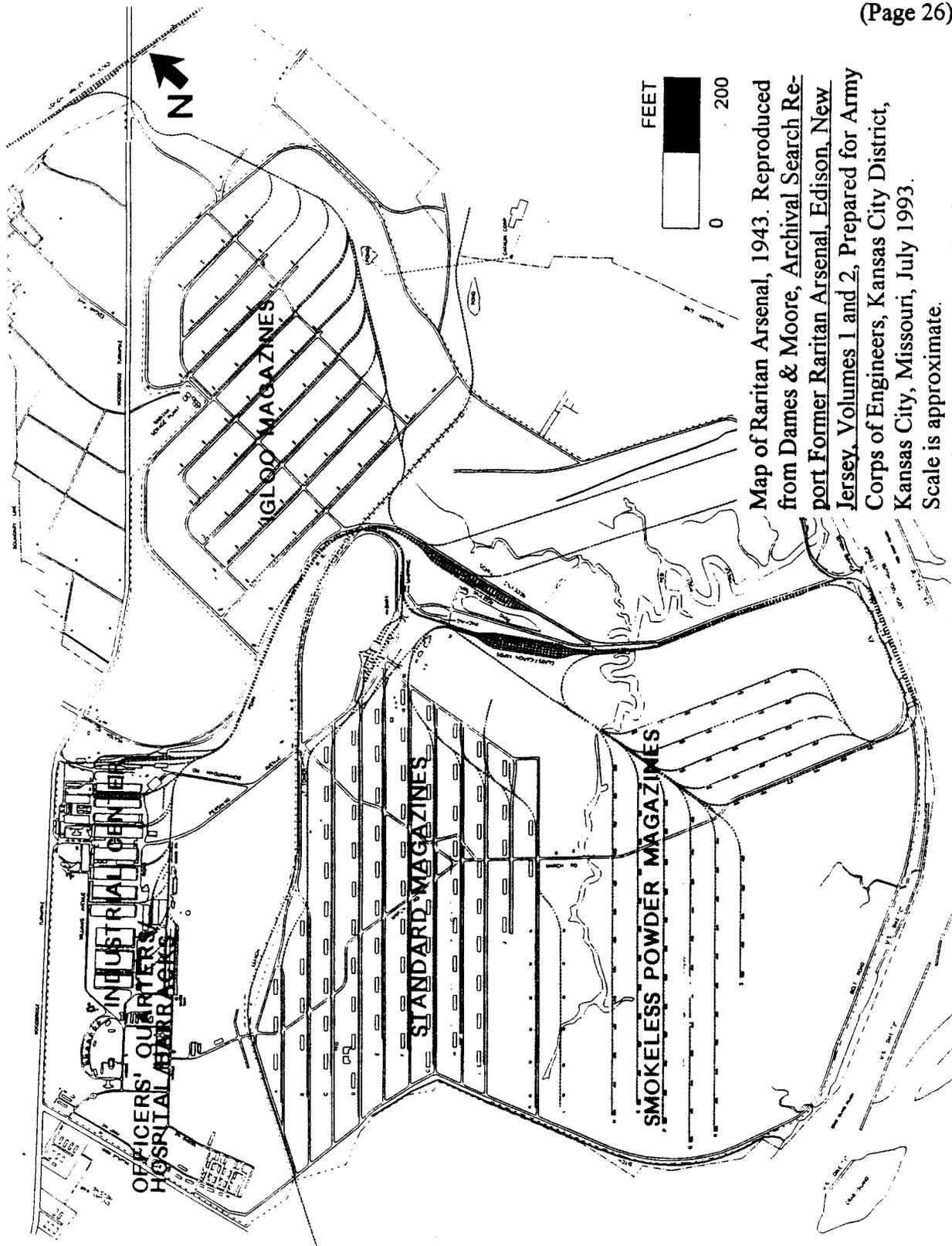
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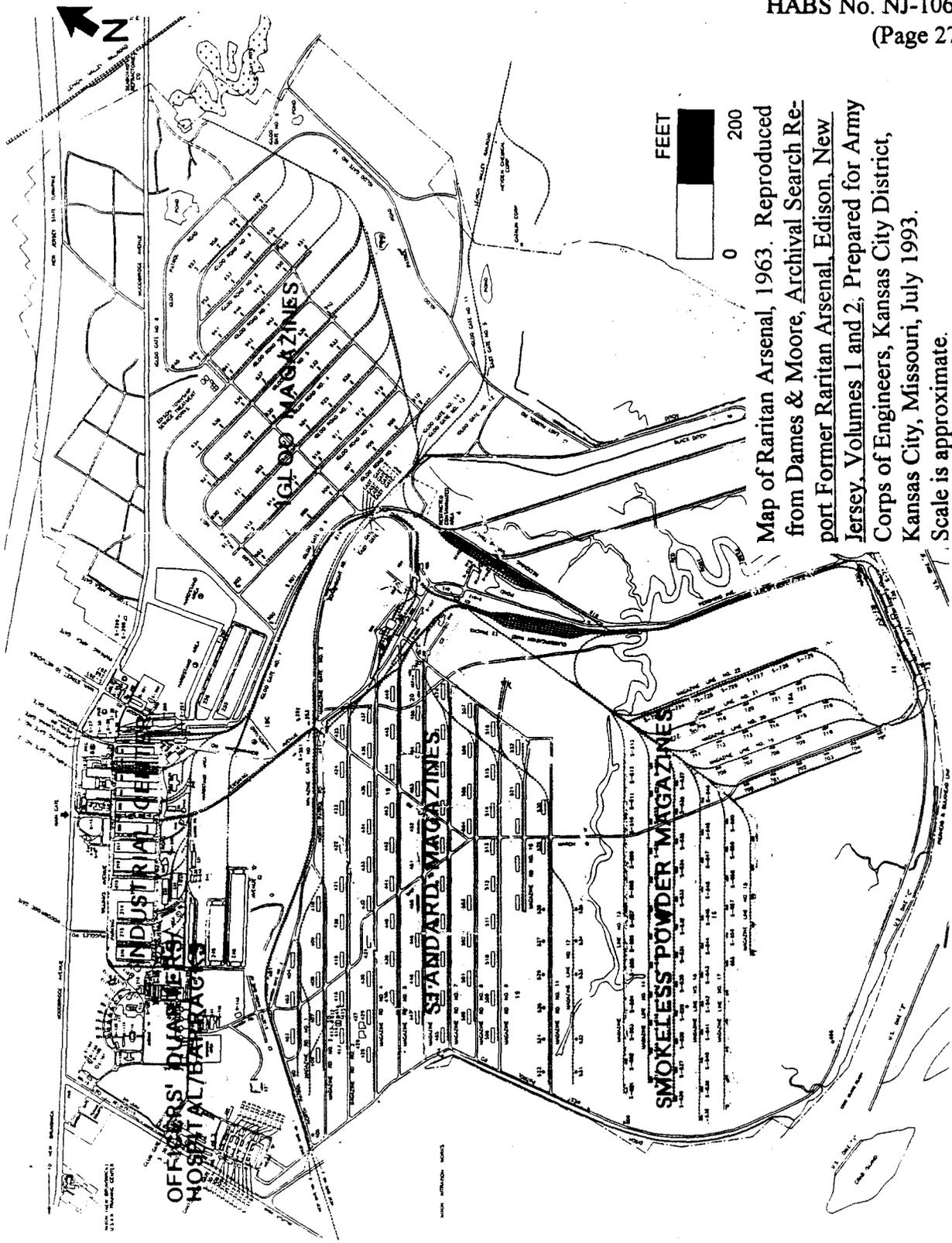
Map of Raritan Arsenal, 1934. Reproduced from Dames & Moore, Archival Search Report Former Raritan Arsenal, Edison, New Jersey, Volumes 1 and 2, Prepared for Army Corps of Engineers, Kansas City District, Kansas City, Missouri, July 1993.

Scale is approximate.





Map of Raritan Arsenal, 1943. Reproduced from Dames & Moore, Archival Search Report Former Raritan Arsenal, Edison, New Jersey, Volumes 1 and 2, Prepared for Army Corps of Engineers, Kansas City District, Kansas City, Missouri, July 1993. Scale is approximate.



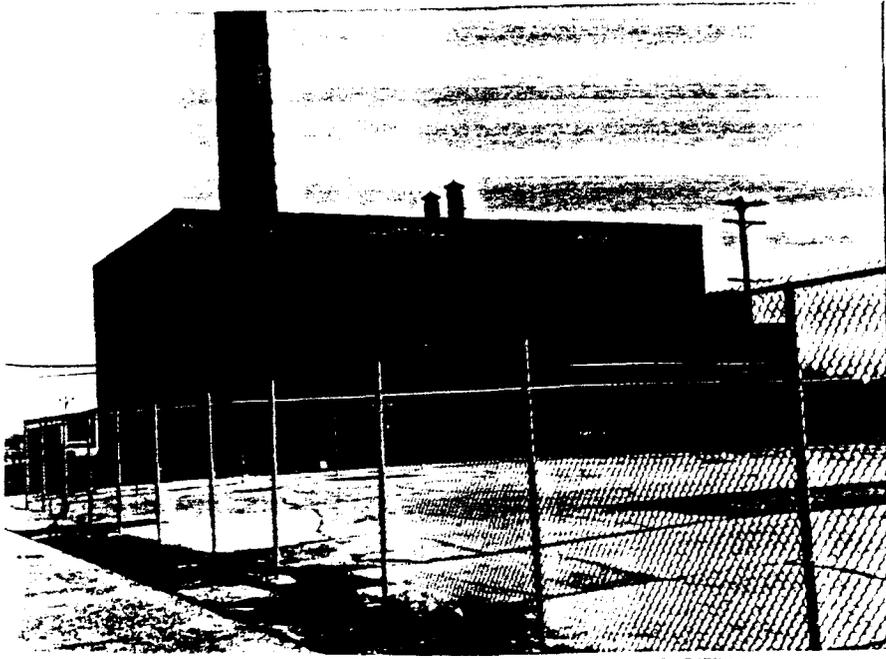
Map of Raritan Arsenal, 1963. Reproduced from Dames & Moore, Archival Search Report Former Raritan Arsenal, Edison, New Jersey, Volumes 1 and 2, Prepared for Army Corps of Engineers, Kansas City District, Kansas City, Missouri, July 1993. Scale is approximate.



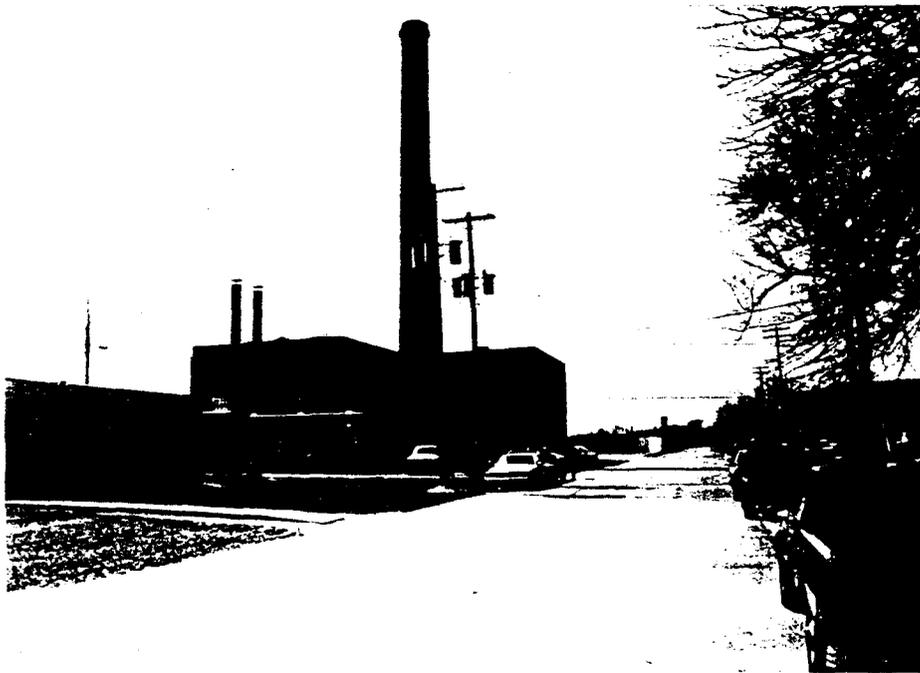
Top: Building 16, Latrine, at right, east elevation. Building 17 at left. 1990.
Bottom: Building 16, Latrine, at center, west elevation. Building 15D (brick) at left.
Building 17 at right. 1990.



Source: Stage 1 Cultural Resources Survey.
U.S. Environmental Protection Agency Edison
Facility, Edison Township, Middlesex County, 1990.



Top: Building 234, Heating Plant, west elevation. 1990.
Bottom: Building 234, Heating Plant, east elevation. 1990.



Source: Stage 1 Cultural Resources Survey.
U.S. Environmental Protection Agency Edison
Facility, Edison Township, Middlesex County, 1990.



Top: Building 235, Storehouse, north and east elevations. 1990.
Bottom: Building 241, Motor Repair Shop, west elevation. 1990.



Source: Stage 1 Cultural Resources Survey.
U.S. Environmental Protection Agency Edison
Facility, Edison Township, Middlesex County, 1990.



Top: Building 241, Motor Repair Shop, west and south elevations. 1990.
Bottom: Building 241, Motor Repair Shop, interior. 1990.



Source: Stage 1 Cultural Resources Survey,
U.S. Environmental Protection Agency Edison
Facility, Edison Township, Middlesex County, 1990.